Beginning R



You will learn the following today:

use the RStudio interface explore & manipulate data create basic graphs load in an R package load in a data file export data to a CSV file do a correlation build a linear model find additional resources

About the software

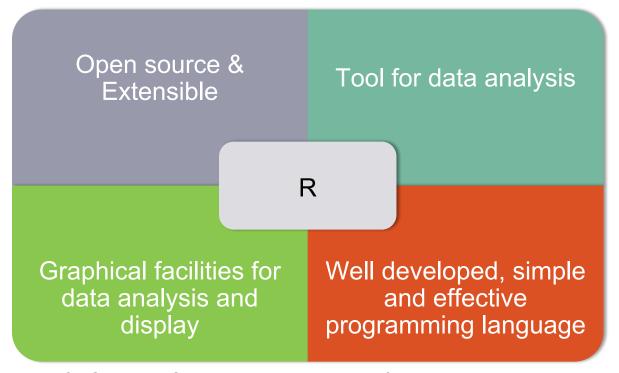




Most popular Graphical interface for writing R code

What is R?

"Free software environment for statistical computing and graphics." – R-Project [1]



1. The R Project for Statistical Computing. (n. d.). Retrived from https://www.r-project.org/



Other Stats Software

Some well-known statistical packages include –

- MATLAB Programming language with statistical features
- Mathematica A software package with statistical capabilities
- SAS Comprehensive statistical package
- SPSS (Statistical Package for Social Sciences) –
 Comprehensive statistical software

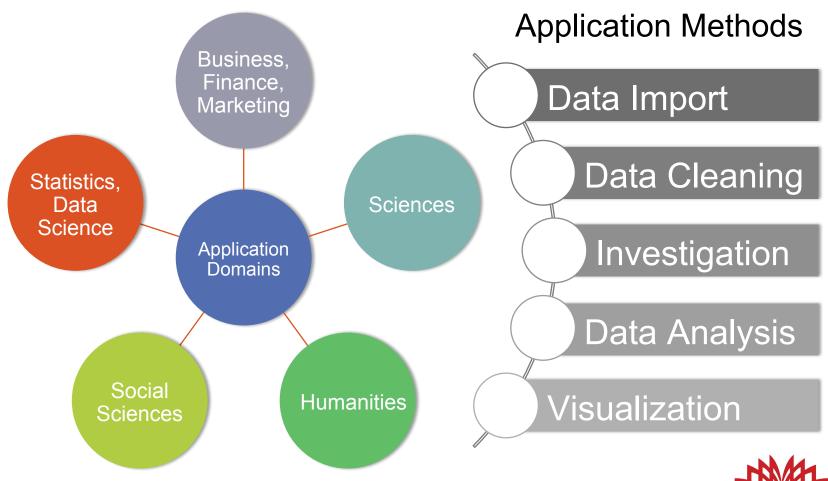


Why Use R?

- Free
- Get data, analyze, visualize and create publication-quality reports all in one tool.
- Over 15,000 packages for a variety of data analysis needs.
- Can write your own packages if necessary and make it available for others to use



Applications of R



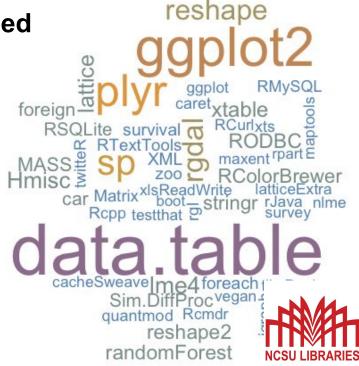
Packages in R

Packages are libraries of functions that are built to perform some specific tasks, i.e. create plots.

Packages are first installed, then loaded into your current working session.

Find out more about packages at

Rdocumentation.org



R Packages we will use

R core packages: base, stats, utils external R package: readxl

Package info

base: core R functions

https://www.rdocumentation.org/packages/base

stats: statistics functions

https://www.rdocumentation.org/packages/stats

utils: utility functions

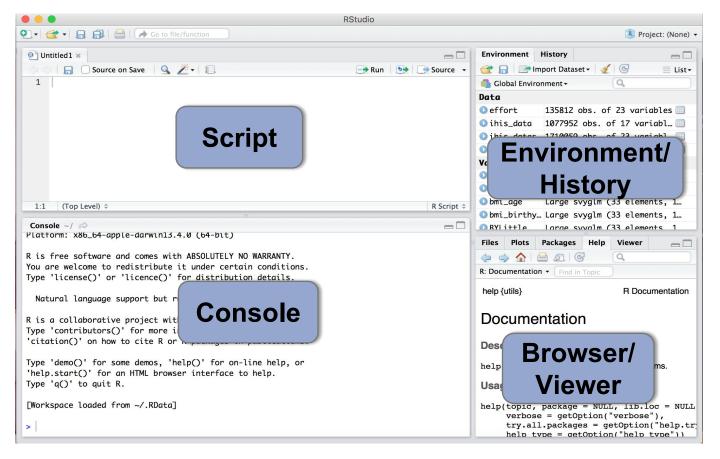
https://www.rdocumentation.org/packages/utils

readxl: functions for reading excel files

https://www.rdocumentation.org/packages/readxl

About R-Studio

A powerful user interface for R that is free, open source and works in all platforms.





Learning Resources

- Impatient R Quick tutorial of R basics for the beginners. Link: http://www.burns-stat.com/documents/tutorials/impatie nt-r/
- R bloggers A compiled resource useful articles on R from about 580 blogs. Link: https://www.r-bloggers.com/
- A short list of the most useful R commands -<u>http://www.personality-project.org/r/r.commands.html</u>
- R for Data Science (free book) Wickham, H. (2014).
 CRC Press.